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(U) CHINA'S GENERATIONAL TRANSITION

Summary

Chinese success in handing over power at all levels except the very top to a generation of better educated, more technologically sophisticated leaders in their forties and fifties is well known. Many of these younger leaders either were trained in the USSR or rose through the ranks of industries and bureaucracies dominated by Soviet thinking and, in some cases, created by the Soviets.

Between 1950 and 1960, more than 11,000 Soviet experts worked for extended periods in China, about 8,400 of them in economic sectors and 1,850 in science, education, and public health (see Appendix A, Table 1). At the same time, China sent to the USSR for training some 2,500 scientists and college professors, 8,000 technicians, and 20,000 workers and enrolled about 7,500 Chinese students in Soviet universities (Table 2).

Despite these impressive figures and the undoubtedly strong impact of the Sino-Soviet cooperation of the 1950s, Soviet influence on the thinking of China's new generation ought not to be overstressed:

--Soviet-trained Chinese represent only a small proportion--probably about 1 percent--of Chinese college graduates during the 1950s. Even in science and engineering, those trained in the USSR constitute only about 3 percent of Chinese graduates in those disciplines. Similarly, only some 12-18 percent of the members and alternates of the Chinese Communist Party Central Committee have a Soviet college-level background.

--Exposure to the Soviet Union on an extended basis has seldom had the effect of influencing

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Third World citizens to be "pro-Soviet" and the Chinese almost certainly are no exception." Soviet "influence" in China, however, is found in thinking and behavioral patterns in bureaucracies and industries heavily shaped by Soviet advice during the 1950s.

About 17,000 Chinese have been trained in the US, surpassing the number of Chinese trained in the USSR in the 1950s. About two-thirds of the Chinese studying in the US are enrolled in engineering and the hard sciences.

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Educational Background

Of the generation now coming to power, only Chinese roughly 50 years of age and above are old enough to have had substantial Soviet experience. Moreover, Chinese graduates of Soviet universities are a small proportion of total Chinese college graduates, though in many cases they may have received the best training. Between 1949 and 1959, China graduated about 500,000 students from its colleges and universities (Table 3). During the same decade, only about 7,500 students attended Soviet institutions of higher education, although many of those enrolled in Chinese universities were taught by Soviet lecturers and Soviet graduates, under Soviet advice and supervision, or with Soviet-supplied textbooks (Appendix B).

About 5,500 of those sent to the Soviet Union were undergraduates, and not all of them graduated during this period. Thus, perhaps 1 percent of Chinese college graduates between 1949 and 1959 were Soviet trained. Although the number of students enrolled in engineering or science programs in the USSR is unknown, most analysts believe they represented a high percentage. But even if all 5,500 students were in engineering or science, they would represent only 3 percent of Chinese graduates in those disciplines during the 1950s (Table 3). During the 1950s, China also sent about 2,000 graduate students for advanced training in the USSR. Clearly, these students received better training and had access to more advanced technology than those trained at home--but they represented only about 5.5 percent of Chinese graduate students (Table 4).

Soviet-Trained Political Leaders

Much has been made in recent years of the number of Soviet-trained leaders being promoted to important posts in China. A recent examination of available biographical data suggests that this factor, too, may have been overestimated. Of the 343 members and alternates of the Chinese Communist Party Central Committee, educational data are available for 199, or 58 percent. Of these, 123 are known to have attended--though not necessarily graduated from--a college or university. Thus, 62 percent of those for whom data are available have a college background. Seventy-six (38 percent) of the 199 are known or strongly believed to have no college background.

Of the 123 Central Committee members and alternates with a college background, 18 percent (22 persons) are known to have been

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trained in the Soviet Union, and 9 percent (11 persons) are known to have attended Western college-level institutions. Estimates of the likely backgrounds of all 343 members and alternates suggests that some 13 percent have a Soviet background, while perhaps 10 percent are Western trained (Appendix C).

Within the top leadership--the 26 members and alternates of the Politburo and/or Secretariat--13 (50 percent) have college backgrounds. Of them, three (11.5 percent) are Soviet trained, two (8 percent) have some Western college-level experience, and 11 (42 percent) have no college background. The educational status of two members of the group is unknown.

#### The Outlook of the "Third" and "Fourth Echelons"

The Chinese now talk about promoting a "third echelon" to positions of responsibility, but this "third echelon" is, in reality, made up of two age cohorts with rather different life experiences that have probably shaped their thinking differently. Members of the older group spent their adolescence in wartime China and grew into adulthood during China's "golden years" in the 1950s. Their attitudes were largely shaped by the prevailing optimism and nationalism of the late-war period and the economic success and relative political stability of the early 1950s.

Chinese in their mid-forties, by contrast, are too young to have been significantly affected by the wartime atmosphere. They attended school during the heyday of post-revolution education in the 1950s when getting a good education was seen as both a patriotic duty and a road to personal advancement. Their political exposure to the adult world, however, occurred during the chaotic decade of the Cultural Revolution. As a result, the younger group tends to be more elitist and more cynical.

Both age cohorts were traumatized by the Cultural Revolution, and both now suffer from ambivalent attitudes and tensions brought about by the disjuncture between their training/education and the political realities of their early adult years. These tensions make their future proclivities and behavior difficult to predict.

Both groups respect science and the scientific way of doing things, but they are imbued more with a practical, technological orientation than with a freely inquiring scientific one. Many are engineers fascinated with cause-effect relationships. They have a tendency to view mechanical approaches as applicable to human affairs, but their experiences with arbitrary power in political and social life may give them a relatively skeptical view of authority. Both generations demonstrate an openness to the outside world. They prefer an apolitical approach to "technical" questions of science and economy and a system of promotion

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former, but many of their careers have been built on political loyalty or personal ties.

The "Soviet Factor"

Although many Chinese who studied in the USSR express affection for the Soviet people in general and for their former colleagues or fellow students in particular, many also cite experiences with isolation and racism as factors in alienating them from the system. Moreover, no available evidence suggests that prolonged exposure to the Soviet Union has influenced Chinese to favor Soviet foreign policy.

Years of education in a heavily Soviet-influenced educational system and decades of experience in heavily Soviet-influenced industrial sectors and bureaucracies, however, may have led many Chinese in their forties and fifties to favor a modified "Soviet model" of economic activity in which central planning and a thriving heavy industry play a major role. This outlook may increasingly come to clash with a more pragmatic outlook on the part of Chinese now being trained in the West.

The "Fifth Echelon" Training in the US

The number of Chinese being trained in the US--about 17,000--has already surpassed the number trained in the USSR in the 1950s; by 1990 it will surpass the number trained in the West between 1840 and 1949. If current trends and current US policy continue, by 1990 China will be the source of the largest group of foreign students in the US. Taiwan currently sends the most students to the US. About two-thirds of the Chinese studying in the US are enrolled in engineering, physics, computer science, life sciences, and related disciplines; about one-third are in humanities, management, and social sciences. Some have already returned and been promoted to high office, including Chairman of the State Science and Technology Commission Song Jian and Chairman of the National Defense Science, Technology and Industry Commission Ding Henggao (see Appendix C).

The proportion of educational costs paid for by the Chinese Government declined from about 54 percent in 1979 to 32 percent by year-end 1983. At the same time, support provided by US universities--some of it US Government money allocated to universities by the National Science Foundation--rose from 18 percent in 1979 to 45 percent in 1983.

Chinese students being trained in the US have experienced problems of reabsorption as they reenter a system ill-equipped to support their expectations. Many go back seeing themselves as a "new élite," destined to "straighten out" China's problems. As a

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result, their changed attitudes and their high expectations leave them vulnerable and susceptible to frustration.

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## APPENDIX A

## (U) Table 1

Soviet Specialists in the People's Republic of China, 1950-60

Industry	5,400
Communications and transportation	2,000
Agriculture, water conservation	1,000
Education	700
Public health	300
Scientific research	850
Other (mainly government administration)	<u>750</u>
 Total	11,000

Source: Cheng Chu-yuan, Scientific and Engineering Manpower in Communist China, 1949-63. Washington, D.C.: National Science Foundation, 1965, p. 196.

## (U) Table 2

Chinese Trained in the USSR, 1950-60

Scientists	1,300
Instructors	1,200
Students	
Undergraduates	5,500
Graduates	2,000
Technicians	8,000
Workers	<u>20,000</u>
 Total	38,000

Source: Cheng, op. cit.

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## Appendix A (cont'd)

## (U) Table 3

Chinese College Graduates, by Discipline, 1949-59

<u>Year</u>	<u>Engineering</u>	<u>Science</u>	<u>Total</u>
1949	4,752	1,584	21,000
1950	4,711	1,468	18,000
1951	4,416	1,488	19,000
1952	10,213	2,215	32,000
1953	14,565	1,753	48,000
1954	15,596	802	47,000
1955	18,614	2,015	55,000
1956	22,047	3,978	63,000
1957	17,162	3,524	56,000
1958	17,499	4,654	72,000
1959	<u>17,500</u>	<u>4,500</u>	<u>70,000</u>
Total	147,075	27,981	501,000

Sources: 1949-58 - Leo Orleans, Professional Manpower and Education in Communist China. Washington, D.C.: National Science Foundation, 1961; 1959 - author's estimate.

## (U) Table 4

Chinese Graduate Students, 1949-59

<u>Year</u>	<u>Number</u>
1950	629
1951	1,261
1952	2,168
1953	3,520
1954	4,249
1955	4,800
1956	4,800
1957	4,800
1958	5,000
1959	<u>5,000</u>
Total	36,227

Sources: 1950-56 - Orleans, op. cit.; 1957-59 - author's estimate.

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III.  
(U) APPENDIX B

Note on the Number of Soviet-Trained Chinese

This paper estimates that 7,500 Chinese students trained in the Soviet Union during the 1950s. Another source (Orleans, op. cit.) states that about 14,000 Chinese were sent for schooling in the Soviet Union in the 1950s and that about 8,500 had returned by 1959. The remainder presumably stayed on for further training despite the deterioration in Sino-Soviet relations. Probably not more than one-third of the 14,000--or 4,650--were graduate students.

If the Orleans figures are accurate, and if about two-thirds of the 8,500--or 5,666--who returned by 1959 had graduated at the bachelor's level, they would represent about 1 percent of Chinese graduates. Similarly, if one-third--or 2,834--were graduate students, they would account for only about 7.8 percent of Chinese graduate students during the 1950s, a somewhat higher percentage than suggested by the 5.5 percent cited in the body of this paper.

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Methodological Note: Soviet-Trained Members of the CCP Central Committee

Data are available on the educational background of 159 (76 percent) of the 210 full members of the CCP Central Committee. Of the 159, 92 (58 percent) are known or strongly believed to have attended--although not necessarily graduated from--a college-level institution. These 92, however, include attendees in Chinese pseudo-universities in Yanan and party elders who are said to have studied in college in Europe during the 1920s. Thus both Deng Xiaoping and Hu Yaobang are considered to be "college educated."

Of the 159 full members on whom data are available, 67 (42 percent) are known or strongly believed not to have a college-level background. Of the 92 with college-level education, 15 (16 percent) are known to have been "Soviet trained." These 15, however, include attendees of Soviet programs during the 1920s and 1930s, including Deng Xiaoping, Yang Shangkun, and others. Of the 92 with college backgrounds, eight (9 percent) were Western trained, including a few who attended universities in the US after 1979.

Of the 51 whose educational backgrounds are unknown, perhaps between half and two-thirds, or a total of 30, are college educated, raising the number of full Central Committee members who probably have a college education to 122, or 58 percent. Of the 30, perhaps one-fourth were Soviet trained, raising the total of Soviet-trained Central Committee members to about 23, or 11 percent.

Among alternates, less data are available. Thirty-one of the 133 (23 percent) have known college backgrounds. Seven of them (23 percent) were Soviet trained and three (10 percent) were Western trained. Nine are known or strongly believed not to have a college background. Of the other 93, as many as two-thirds (62) may have a college education, raising the possible total of college-educated alternates to 93, or 70 percent. Of the 62, perhaps one-fourth (16) were Soviet trained, increasing the total to 23, or 17 percent of all alternates.

Combining the estimates on full and alternate members of the Central Committee suggests that about 215 (63 percent) of the 343 are college educated and about 46 (13 percent) were Soviet trained. These figures are probably biased upward on both accounts, however.

Of the 26 members of either the Politburo or Secretariat (including those who are members of both organs only once), 13 (50 percent) have some college background. Of them, three

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(Deng Xiaoping, Wang Shengkun, and Li Peng), a total of 11.5 percent, have Soviet training. Two (Deng and Wan Li), or 8 percent, allegedly have Western college backgrounds. Eleven are known not to have college educations, and data are unavailable on two.

Data on Chinese students in the US come from a briefing by a former senior staff member of the Committee for Scholarly Communication with the People's Republic of China (CSCPRC) on a study the CSCPRC is now completing.